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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,249	12/31/2003	Shigehiro Yoshida	1163-0487P	6978

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EXAMINER
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MONBLEAU, DAVIENNE N

ART UNIT	PAPER NUMBER
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2878

DATE MAILED: 10/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/748,249

Applicant(s)

YOSHIDA, SHIGEHIRO

Examiner

Davienne Monbleau

Art Unit

2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Amendment*

The amendment on 9/29/05 has been entered. Claims 1-6 have been amended. Claims 1-6 are pending.

### *Drawings*

The drawings were received on 9/29/05. These drawings are accepted.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

*Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fischbach et al. (U.S. 6,713,677) in view of Mueller et al. (U.S. 6,316,786).*

Regarding Claim 1, *Fischbach* teaches in Figure 1 a surface-mounting type optical device comprising an active member (2) that is attached at the bottom of the main body (8) of the optical device a portion of which is inserted in the engaging hole of a substrate (3-6, 13) and that receives light emitted from the interior direction of the substrate (3-6, 13), an electrode member (14) that is connected to a pattern formed on the surface of the substrate (3-6, 13), and electrically connects the pattern and the active member (2), and a step portion (7) that is formed in part of the main body (8) of the optical device and engages the substrate (3-6, 13). *Fischbach* teaches in column 5 lines 45-50 that the active member (2) is a light-receiving member but does not teach a light-emitting member. It would have been obvious, however, to one of ordinary

Art Unit: 2878

skill in the art at the time of the invention to apply the surface-mounting configuration in *Fischbach* for a light-emitting device because it is well known in the art that efficient mounting devices may be used interchangeably between light detectors and light sources depending on the desired use of the optical system. *Fischbach* does not teach that said electrode member (14) is led out from the side of the main body of the optical device. It would have been obvious, however, to one of ordinary skill in the art at the time of the invention to use particular electrical connections to optimize the efficiency of the light-receiving member by minimizing loss and preventing the device from over-heating. (See *Mueller* column 1 lines 18-24.)

Regarding Claim 3, *Fischbach* teaches in Figure 1 a surface-mounting type optical device comprising a light-receiving member (2) that is attached at the bottom of the main body (8) of the optical device a portion of which is inserted in the engaging hole of a substrate (3-6, 13) and that receives light emitted from the interior direction of the substrate (3-6, 13), an electrode member (14) that is connected to a pattern formed on the surface of the substrate (3-6, 13), and electrically connects the pattern and the light-receiving member (2), and a step portion (7) that is formed in part of the main body (8) of the optical device and engages the substrate (3-6, 13). *Fischbach* does not teach that said electrode member (14) is led out from the side of the main body of the optical device. It would have been obvious, however, to one of ordinary skill in the art at the time of the invention to use particular electrical connections to optimize the efficiency of the light-receiving member by minimizing loss and preventing the device from over-heating. (See *Mueller* column 1 lines 18-24.)

Regarding Claims 2 and 4, *Fischbach* teaches in Figure 1 that the step portion (7) is formed on the side of the main body (8) of the optical device which is opposite the side thereof from which the electrode member (14) is led out.

Regarding Claim 5, *Fischbach* teaches in Figures 1 and 4 a surface-mounting type optical device comprising an active member (2) that is attached at the bottom of the main body (8) of the optical device a portion of which is inserted in the engaging hole of a substrate (3-6, 13) and that receives light emitted from the direction of the interior of the substrate (3-6, 13), a step portion (7) that is formed in part of the main body (8) of the optical device and engages the substrate (3-6, 13). *Fischbach* teaches in column 5 lines 45-50 that the active member (2) is a light-receiving member but does not teach a light-emitting member. It would have been obvious, however, to one of ordinary skill in the art at the time of the invention to apply the surface-mounting configuration in *Fischbach* for a light-emitting device because it is well known in the art that efficient mounting devices may be used interchangeably between light sources and light detectors depending on the desired use of the optical system. *Fischbach* further teaches in Figure 4 an electrical contact (16) to connect the active member (2) to the substrate (3-6, 13) but does not teach that the electrical contact (16) is exactly on the step portion (7). It would have been obvious, however, to one of ordinary skill in the art at the time of the invention to use particular electrical connections to optimize the efficiency of the light-receiving member by minimizing loss and preventing the device from over-heating. (See *Mueller* column 1 lines 18-24.)

Regarding Claim 6, *Fischbach* teaches in Figures 1 and 4 a surface-mounting type optical device comprising a light-receiving member (2) that is attached at the bottom of the main body (8) of the optical device a portion of which is inserted in the engaging hole of a substrate (3-6,

Art Unit: 2878

13) and that receives light emitted from the direction of the interior of the substrate (3-6, 13), a step portion (7) that is formed in part of the main body (8) of the optical device and engages the substrate (3-6, 13). *Fischbach* further teaches in Figure 4 an electrical contact (16) to connect the light-receiving member (2) to the substrate (3-6, 13) but does not teach that the electrical contact (16) is exactly on the step portion. It would have been obvious, however, to one of ordinary skill in the art at the time of the invention to use particular electrical connections to optimize the efficiency of the light-receiving member by minimizing loss and preventing the device from over-heating. (See *Mueller* column 1 lines 18-24.)

### ***Response to Arguments***

Applicant's arguments filed 9/29/05 have been fully considered but they are not persuasive. Applicant makes the following arguments:

A. Applicant argues (response, page 10) that *Fischbach* does not teach a light emitting or light receiving member.

B. Applicant argues (response, page 11) that *Fischbach* does not teach an electrode member that is led out from a side of the main body of the optical device, is connected to a pattern formed on a surface of the substrate, and electrically connects the pattern and light emitting/receiving member.

C. Applicant argues (response, page 11) that *Fischbach* does not teach fixing an electrode that is formed on the step portion, is connected to a pattern formed on a surface of the substrate, and electrically connects the pattern and light emitting/receiving member.

D. Applicant argues (response, page 11) that *Fischbach* does not teach choosing the electrical connections to optimize efficiency by minimizing loss and preventing overheating.

Art Unit: 2878

Regarding Argument A, *Fischbach* teaches (column 5, lines 45-50) that the semiconductor chip (2) is a sensor.

Regarding Arguments B-D, *Mueller* teaches in column 1 lines 18-24 that in order to achieve high efficiency and low voltage operation (i.e. preventing overheating) for light emitting and receiving devices, electrodes have to be optimized for their individual function. This reference is incorporated into the previous rejection merely to support the Examiner's statement that it would have been obvious to one of ordinary skill in the art at the time of the invention to use particular electrode connections (i.e. optimizing electrodes for their individual function) to optimize the efficiency of the device and preventing overheating.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 2878


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Davienne Monbleau whose telephone number is 571-272-1945. The examiner can normally be reached on Monday through Friday 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Davienne Monbleau*

DNM

  
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